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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,752	12/20/2006	Bhavana Deore	17522NP	8507
293 7590 01/09/2012 DOWELL & DOWELL P.C. 103 Oronoco St. Suite 220 Alexandria, VA 22314				
EXAMINER				
FANG, SHANE				
ART UNIT		PAPER NUMBER		
1766				
MAIL DATE		DELIVERY MODE		
01/09/2012		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/581,752

**Applicant(s)**

DEORE ET AL.

**Examiner**

SHANE FANG

**Art Unit**

1766

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 October 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 5) ☒ Claim(s) 1,2,6,7,15-24 and 26-28 is/are pending in the application.
- 5a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 6) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 7) ☒ Claim(s) 1,2,6,7,15-24 and 26-28 is/are rejected.
- 8) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CIB) Paper No(s)/Mail Date 11/09/11
- 4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

## DETAILED ACTION

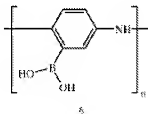
### *Response to Amendment*

- No amendment.
- All previous 103 rejections have been overcome by argument.
- The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### *Claim Rejections - 35 USC § 103*

1. Claims 1-2, 6-7, 15-24, and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freund et al. (US 20030055212, both 102e and 102a date, would be overcome differently).

As to claims 1-2, 6-7, 15-24, and 26-28, Freund (2, 21, 35, 38, 50, Ex. 1, claims 1-19) discloses:



,  $n=3-1M$ , the resultant MW would overlap with the claimed range of at least 100k (claim 1) and 100k-2M (claim 20 and 26). It has been found that where claimed ranges overlap ranges disclosed by the prior art, a *prima facie* case of obviousness exists - see MPEP 2144.05.

Particular to claims 1, 6, and 15, although Freund is silent on the reversible reactions between boronic acid of the polyaniline with D-fructose in presence of fluoride, this limitation is construed as part of the inherent property. The aforementioned polymer meets the structures of claims 1 and 6, because formulae 2 and 1 of claim 6 are also construed as part of the inherent property of claimed polyaniline capable of converting between formula 2 and 1 with D-fructose in presence of fluoride. What claimed is a boronic acid substituted polyaniline, and the aforementioned structure meets the claimed structure.

Freund is silent on the hardness of the polyaniline dried film of instant claims 2, 7, 16-19, 21-24, and 27-28. However, one ordinary skill in the art would have expected the polymer (and its MW) disclosed by Freund to feature the same film hardness and other property because they obviously satisfy all of the material and chemical limitations of the instant invention-see MPEP 2112.01.

### ***Response to Arguments***

The argument (including 132) for allowance of amended claims has been fully considered and persuasive. All previous 103 rejections have been withdrawn. The examiner agrees the polymerization mechanisms of Shoji or Freund (electrochemical polymerization) differ from that of Mattoso (oxidation polymerization). One of ordinary skill in the art would not use Mattoso's polymerization parameters and the 3-aminophenylboronic acid of Shoji or Freund to produce the claimed polymer having the claimed MW of at least 100k.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHANE FANG whose telephone number is (571)270-7378. The examiner can normally be reached on Mon.-Thurs. 8 a.m. to 6:30 p.m. EST.. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SHANE FANG/

Examiner, Art Unit 1766